



February 19, 2016

Department of Conservation  
801K Street, MS 24-02  
Sacramento, CA 95814  
ATTN: UIC Discussion Draft

Re: Notice of Pre-Rulemaking Public Comment Period on the Development of  
Updates to Underground Injection Control Regulations

Vaquero Energy, Inc., PetroRock LLC, and Hunter Edison Oil Development LP are writing to provide comments on the pre-rulemaking discussion draft to update regulations governing underground injection control dated January 21, 2016. We do support responsible injection and regulations to protect our USDW aquifers and fresh water. A number of items in the proposed regulations are overreaching and provide little added protection at a great cost to our business. The items we take issue with pertain to cyclic steam. Cyclic steam is grouped in with all injection projects and only section 1724.10.j.2 gives special consideration for cyclic steam compared to disposal and steam/water flood projects. Cyclic steam injects high temperature and pressure fresh water into producing zones in order to heat up the matrix and lower the viscosity of the oil to aid in oil production. The wells we cyclic steam are in formations permitted for cyclic steam according to the California Oil and Gas Fields publication.

Cyclic steam poses very little threat to any freshwater source as it is of great interest to the operator to ensure the steam is placed where it is intended. Steam is expensive to produce and if it is injected out of zone there will be no resulting production to cover the costs of the steam production. In addition, only fresh water can be used in steam production to avoid scale deposits and equipment fouling. The injected steam is therefore of a higher quality than any zone it might be injected into, even if there is out of zone injection.

As stated above, steam is expensive to generate and any added costs to this process quickly change the economics of the cyclic steam jobs. If the existing zones and areas permitted for cyclic steam projects are subjected to the requirements of sections 1724.6, 1724.7, and 1724.10, many of the cyclic steam wells will become uneconomic, causing a drop off in production, and many leases will be shut in. The regulations will have a disproportionate impact on small independent operators. We propose an exemption for areas already approved for cyclic steam injection as documented in Vol. I-III of California Oil and Gas Fields.

Sincerely,

Wyatt Shipley  
Operations Manager  
Vaquero Energy, Inc.